

Run12 planning

polar. mtg.
19.10.11

DAQ & detectors:

- Developing consensus
- Proposal: pC polarimeter \leftrightarrow DAQ, detector assignment

Targets:

- Inventory
- pC polarimeter \leftrightarrow target assignment ?

DAQ & detectors: developing consensus

DAQ:

- Change back separation: Upstream/Downstream → Blue/Yellow

Detectors:

- Minimal changes from Run11, mostly reuse detectors
- 3 polarimeters all 6 BNL detectors
- 1 polarimeter all 6 Hamamatsu detectors
- Rotate 1 pair BNL detectors for longitudinal segmentation
- 1 mm BNL detectors will not be tested in RHIC

Notes:

- Only 6 chan. Hamamatsu, low 10 V bias
can simply add 2 more chan. with NIM module; but no readback...
- We previously distinguished BNL 'long' and 'short' pin detectors
Is this still meaningful? Did we see any differences?

Proposal: DAQ & detectors

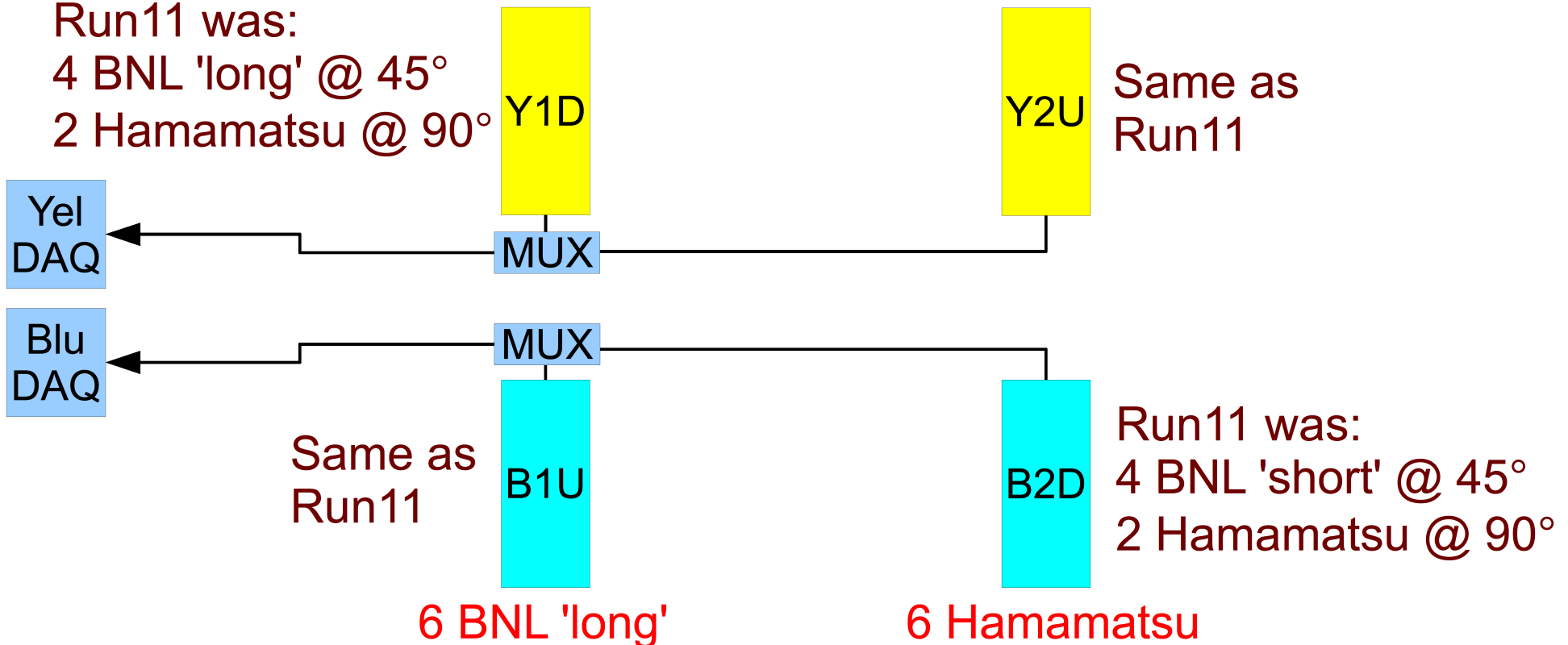
Run12
proposal:

2 BNL 'short' @ 90°
4 BNL 'long' @ 45°
1 pair @ 45° rotated

6 BNL 'long'

Run11 was:

4 BNL 'long' @ 45°
2 Hamamatsu @ 90°



Only changes from Run11:

- Swap: 1 pair Ham. Y1D → B2D \Leftrightarrow 1 pair BNL 'short' B2D → Y1D
- New pair Hamamatsu → B2D; discard one pair BNL 'short' (1 hi I_{bias})
- Rotate one pair BNL 'long' in Y1D

Target Inventory (Dannie)

Targets made with different twistiness:

- Standard, as previous years
- Low twisting
- Highly twisted, 250-500 turns over 2.5 cm \Rightarrow 50-100 μ / twist
beam RMS 500-1000 μ

	standard < (>) 10 μ wide	low twist	high twist
1x thick 25-30nm	42 (12) 36 on ladders	3	9
2x thick 50 nm	12 (9)	9	0
4x thick 100 nm	11 (13)	3	1

Summary

- Standard: enough 1x for everywhere; enough 2x,4x for 1/ladder
- Low, high twist: enough for several test targets
- We can probably produce several more of a special type if desired

Target placement

8 ladders
6 targets each
H+V each polar.

Run11 we had 'standard twist':

- 1× almost everywhere, except:
- One 2× each ladder; two ladders also one 4×

What do we want for Run12?

- Why did we have 2× each ladder? Safety against lifetime problems?
- Insert discussion here:

My own 2¢:

- In Y1D we'll have longitudinally segmented detectors:
hit distribution **peak**, **RMS** $\Rightarrow Z_{\text{target}}$, L_{path} (C-path length in target)
- Put some obviously loose target(s) in Y1D (no TOO loose)
monitor **peak** as it sways longitudinally
- Put 2×, 4× targets, different twist types in Y1D
monitor **RMS** vs. thickness, twistiness, ...